

1. A method for use in managing data interconnections in a mobile communications network having multiple packet control function entities (PCFs) and multiple packet data serving nodes (PDSNs), wherein each PCF and PDSN communicates signaling messages according to a mobile signaling protocol, the method comprising:

receiving information for a Mobile Subscriber (MS); and

associating the MS with a same one of the PDSNs when the MS moves from a first area covered by a first PCF to a second area covered by a second PCF.

2. The method of claim 1, wherein each of the other PDSNs is unaware that the MS is associated with the one of the PDSNs.

3. The method of claim 1, further comprising

maintaining a PPP session that links the MS to the one of the PDSNs when the MS moves from the first area covered by the first PCF to the second area covered by the second PCF.

4. A method for use in managing packet data interconnections in a mobile communications network having multiple packet control function entities (PCFs) and multiple packet data serving nodes (PDSNs), wherein each PCF and PDSN communicates signaling messages according to a mobile signaling protocol, the method comprising:

determining that a first PCF has issued a first connection request on behalf of a Mobile Subscriber (MS);

executing, as a result of the first connection request, a selection protocol a first time to select a PDSN that corresponds to the MS;

determining that a second PCF has issued a second connection request on behalf of the MS; and

executing the selection protocol a second time to select the same PDSN that was selected as a result of the first connection request.

5 5. The method of claim 4, wherein the selection protocol relies on at least one of the following values: MN Type, MN ID, MN Session Reference ID, and a value made available via the MSC, VLR, or HLR.

6. The method of claim 4, further comprising

using at least one of the following entities to perform at least some of the determination that the first PCF has issued the first connection request on behalf of the MS: one of the PCFs, one of the PDSNs, and an external server.

10 7. The method of claim 4, further comprising

using at least one of the following entities to perform at least some of the executing of the selection protocol to select the PDSN that corresponds to the MS: one of the PCFs, one of the PDSNs, and an external server.

8. The method of claim 4, further comprising

15 using at least one of the following entities to perform at least some of the determination that the second PCF has issued the second connection request on behalf of the MS: one of the PCFs, one of the PDSNs, and an external server.

9. The method of claim 4, further comprising

20 using at least one of the following entities to perform at least some of the executing of the selection protocol the second time to select the same PDSN: one of the PCFs, one of the PDSNs, and an external server.

10. A method for use in managing packet data interconnections in a mobile communications network having multiple packet control function entities (PCFs) and multiple packet data serving nodes (PDSNs), wherein each PCF and PDSN

communicates signaling messages according to a mobile signaling protocol, the method comprising:

maintaining a list of the PDSNs;

5 executing a hashing protocol to map a number derived from an MS identification number onto the list of PDSNs;

deriving a result from the mapping; and

including the result in a response to a connection request from one of the PCFs.

10 11. A method for use in managing packet data interconnections in a mobile communications network having multiple packet control function entities (PCFs) and multiple packet data serving nodes (PDSNs), wherein each PCF and PDSN communicates signaling messages according to a mobile signaling protocol, the method comprising:

determining that a first PCF has issued a first connection request on behalf of a Mobile Subscriber (MS); and

15 by an entity other than one of the PCFs or one of the PDSNs, determining whether to execute a selection protocol to select, from among the PDSNs, a PDSN that corresponds to the MS.

20 12. A method for use in managing packet data interconnections in a mobile communications network having multiple packet control function entities (PCFs) and multiple packet data serving nodes (PDSNs), wherein each PCF and PDSN communicates signaling messages according to a mobile signaling protocol, the method comprising:

determining that a PCF has issued a connection request on behalf of a Mobile Subscriber (MS); and

causing a response to be issued back to the PCF directing the PCF to issue a connection request to a service address of one of the PDSNs, the one of the PDSNs also having a redirection address.

13. The method of claim 12, further comprising

5 applying a selection protocol to cause different PCFs to select the same PDSN for the same MS during a single data call.

14. The method of claim 12, further comprising

causing each PCF to cause the same PDSN to be selected multiple times for the same MS during a single data call.

10 15. The method of claim 12, further comprising

causing communication among the PDSNs to partition a key space among the PDSNs that corresponds to a value derived from at least one of the following: MN Type, MN ID, and MN Session Reference ID.

15 16. A system for use in managing data interconnections in a mobile communications network having multiple packet control function entities (PCFs) and multiple packet data serving nodes (PDSNs), wherein each PCF and PDSN communicates signaling messages according to a mobile signaling protocol, the system comprising a communications processing mechanism associating a Mobile Subscriber (MS) with a same one of the PDSNs when the MS moves from a first area covered by a
20 first PCF to a second area covered by a second PCF.

17. Computer software, residing on a computer-readable storage medium, comprising a set of instructions for use in a computer system to help cause the computer system to manage data interconnections in a mobile communications network having multiple packet control function entities (PCFs) and multiple packet data serving nodes
25 (PDSNs), wherein each PCF and PDSN communicates signaling messages according to a mobile signaling protocol, the set of instructions causing the computer system to:

receive information for a Mobile Subscriber (MS); and

associate the MS with a same one of the PDSNs when the MS moves from a first area covered by a first PCF to a second area covered by a second PCF.

18. Apparatus for use in managing data interconnections in a mobile communications network having multiple packet control function entities (PCFs) and multiple packet data serving nodes (PDSNs), wherein each PCF and PDSN communicates signaling messages according to a mobile signaling protocol, the apparatus comprising:

a means for receiving information for a Mobile Subscriber (MS); and

- a means for associating the MS with a same one of the PDSNs when the MS moves from a first area covered by a first PCF to a second area covered by a second PCF.